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EXAMINER

ROJAS, OMAR R

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2874

DATE MAILED: 09/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/594,170

Applicant(s)

RUDIGIER, HELMUT

Examiner

Omar Rojas

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 17-31 is/are rejected.
- 7) ☒ Claim(s) 15 and 16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on June 14, 2000. It is noted, however, that applicant has not filed a certified copy of the 200 10 594.9 application as required by 35 U.S.C. 119(b).

Information Disclosure Statement

2. The prior art documents submitted by applicant in the Information Disclosure Statement(s) filed on April 16, 2002 have all been considered and made of record (note the attached copy of form(s) PTO-1449).

Drawings

3. The drawings are objected to because: In Figs. 1a-1b, the label for reference numeral 1' is written illegibly. Figs. 2a-2b are similarly objected to because of the unclearly labeled reference numeral 1. Figs. 5a-5b are objected to because they appear to be informal drawings with grainy marks. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities: In page 4 of the specification, the measurement units after the term "0.01" appear to be incorrect. On page 5, the sentence contained in lines 6-8 does not appear to be proper idiomatic English.

Art Unit: 2874

Appropriate correction is required.

5. Applicant's cooperation is requested in correcting any additional errors of which applicant may become aware in the specification.

Claim Objections

6. Claims 26-27 are objected to because of the following informalities: A space is not provided between the numbers and measurement units recited by claims 26-27. Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Claim 2 recites the limitation "the mirror element" in the second line of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2874

11. Claims 1, 3, 5, 6, 10, 11, 13, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,408,831 to Sakaguchi et al (hereinafter "Sakaguchi").

Regarding claims 1, 3, 5, 6, 10, 11, 13, and 14, Sakaguchi discloses an optical switch (see Figs. 4A-4D) comprising: a glass body support (12) being equipped with a reflective layer (13); wherein the glass body is also provided on both sides with a reflective layer (as seen in Fig. 8A); wherein the reflective layer (13) may be applied by means of a vacuum coating method (see col. 5, ll. 24-26); wherein the reflective layer (13) is constructed to be highly reflective and made of Ag (i.e., silver, see col. 4, ll. 1-5); wherein the glass support is arranged on a switch body (50); wherein the switch body (50) has a shaft to accommodate the glass support 12; wherein the switch body (50) is cuboid and the support 12 is arranged in a surface-flush manner in a recess (58) at a level of medium deepness (as seen in Fig. 4E).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaguchi.

Art Unit: 2874

Regarding claim 4, the examiner incorporates herein the previous remarks concerning claim 1. Therefore, Sakaguchi differs from claim 4 in that Sakaguchi is silent as to the thickness of the glass body (12). However, it is well known in the art to use glass plates having reflective coatings on the order of the specified thickness of claim 4. See, for example, U.S. Patent No. 4,511,618 to Duchene et al., col. 3, ll. 55-60. Thus, if the inherent thickness of the glass body 12 of Sakaguchi does not fall within the specified ranges of claim 4, it would have been obvious to one of ordinary skill at the time of the claimed invention to modify Sakaguchi to have the recited thickness.

14. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaguchi.

Regarding claim 12, the previous remarks concerning claim 10 are incorporated herein. Sakaguchi is silent as to the material used to make the switch body (50). However, it is reasonable to assume that the switch body (50) disclosed by Sakaguchi could either be inherently made of an injection molded material (i.e., a thermoplastic) or cast from metal. In the event that the applicant disagrees with this assertion, as an alternative, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use a material which can be case or injection molded for the switch body of Sakaguchi since such materials are well known for manufacturing mass produced items.

15. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaguchi as applied to claim 1 above, and further in view of U.S. Patent No. 6,310,737 to Gillich et al. (hereinafter "Gillich").

Art Unit: 2874

Regarding claims 7-9, Sakaguchi does not expressly disclose using a protective layer as specified by claims 7-9. However, Gillich in a related disclosure teaches the benefits of using a protective layer made of SiO₂ (i.e., silicon oxide) which is vacuum deposited over a metallic reflective layer. Note col. 1, ll. 54-67 of Gillich. Since the invention of Gillich has applicability to that of Sakaguchi (see Gillich, col. 2, ll. 24-30), the ordinary skilled artisan would have found it obvious at the time of the claimed invention to use the teachings of Gillich to modify Sakaguchi in order to provide a protective layer for the reflective layer (13) of Sakaguchi, thereby obtaining the invention specified by claims 7-9.

16. Claims 2, 17-28 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaguchi as applied to claims 1, 4-6, 10, 11, 13, and 14 above, and further in view of U.S. Patent No. 6,059,416 to Choi et al. (hereinafter Choi).

Regarding claims 2, 17-28, and 31, most of the limitations recited have been discussed with regards to Sakaguchi alone. Sakaguchi further differs substantially from claims 2, 17-28 and 31 in that Sakaguchi does not expressly disclose cutting the glass body 12 out of a glass plate provided with the at least one reflective layer. However, Choi clearly teaches a method which meets this limitation. See col. 5, ll. 14-30 of Choi. Thus, the techniques recited by claims 2, 17-28 and 31 are well known in the art. The ordinary skilled artisan would have wanted to adapt the techniques of Choi to Sakaguchi in order to efficiently produce large quantities of reflectors or improve the surface flatness of the reflectors, e.g. see col. 5, ll. 30-34 of Choi. Therefore, it would have been obvious

Art Unit: 2874

to one of ordinary skill in the art at the time of the claimed invention to modify Sakaguchi to obtain the invention specified by claims 2, 17-28, and 31.

17. Claims 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaguchi in view of Choi as applied to claim 28 above, and further in view of Gillich.

As in indicated with regards to claims 7-9, providing a protective layer over the reflective layer 13 of Sakaguchi would have been obvious to one of ordinary skill at the time of the claimed invention.

Allowable Subject Matter

18. Claims 15 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 15, Sakaguchi does not suggest, nor is it obvious from the prior art cited in this Office action, to have the support project from the switch body in the manner of a lug as shown, for example, in Figs. 1a-1b of the instant application. Nor would have been obvious or desirable in Sakaguchi to glue the support to the switch body as specified by claim 16. Sakaguchi, in fact, appears to teach away from this limitation.

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 5,436,986 to Tsai discloses an optical switching device using a support having a reflective layer.

Art Unit: 2874

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Omar Rojas whose telephone number is (703) 305-8528 and whose e-mail address is *omar.rojas@uspto.gov*. The examiner can normally be reached on Monday-Friday (7:00AM-3:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (703) 308-4819. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722 for regular communications. The examiner's personal work fax number is (703) 746-4751.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Omar Rojas
Patent Examiner
Art Unit 2874

or
September 9, 2002


HEMANG SANGHAVI
PRIMARY EXAMINER